

REMARKS

Claims 1 and 4-21 are currently pending in the above-identified application.

Applicant respectfully requests reconsideration in light of the following remarks.

Claims 1, 4-7 and 10-12 stand rejected under 35 U.S.C. §102(e) as being anticipated by King et al. Applicant respectfully traverses this rejection.

Claim 1 recites a semiconductor assembly that includes, among other features, “a support structure having a top surface” and “at least one semiconductor die having a top and bottom surface” wherein the at least one semiconductor die is “secured at its bottom surface to said top surface of said support structure by a flowable adhesive material which does not extend past a perimeter of said at least one semiconductor die”. Claims 4-7 and 10-12 depend from claim 1.

King et al. discloses a stack of packaged memory die that includes a board 18, and integrated circuit semiconductor devices 14A-D. The semiconductor device 14D is attached to the board 18 by way of an adhesive 22D which may be flowable.

Applicant respectfully disagrees with the contention in the Office action that King et al. teaches or suggests that the “flowable adhesive material ... does not extend past a perimeter of said at least one semiconductor die” as recited in claim 1. The common definition of “perimeter” is “the boundary of a closed plane figure”. Merriam Webster’s Collegiate Dictionary, 10th ed., p. 863. This definition of perimeter is consistent with the manner in which “perimeter” is used in the specification.

King et al. does not mention the location of the adhesive 22D, but only discloses it in the figures 1, 3 and 13A. It is not at all clear that the King et al. figures accurately

depict the extent of the adhesive. Moreover, the figures are an incomplete disclosure since the figures do not show definitively whether the adhesive 22D extends beyond the boundary of the semiconductor device. Even assuming arguendo the accuracy of the King et al. figures with respect to the location of the depicted adhesive, figures 1, 3 and 13A provide no relevant disclosure as to the positioning of the adhesive 22D relative to the boundary of the semiconductor device facing out of the page and the opposite boundary facing into the page. Without such a disclosure, King et al. clearly cannot teach or suggest that the “flowable adhesive material ... does not extend past a perimeter of said at least one semiconductor die” as recited in claim 1.

Claims 8 and 9 stand rejected under 35 U.S.C. §103 as being unpatentable over King et al. in view of Ball. Claims 13 and 14 stand rejected under 35 U.S.C. §103 as being unpatentable over King et al. in view of Fukui et al. Applicant respectfully traverses these rejections. Claims 8, 9, 13 and 14 depend from claim 1. As noted above, King et al. fails to teach or suggest “a flowable adhesive material which does not extend past a perimeter of said at least one semiconductor die”. Ball is relied upon as allegedly disclosing a distance between an electrical contact area and a perimeter of at least one semiconductor die being less than or equal to about 200 microns. Fukui et al. is relied upon as allegedly disclosing an encapsulating material for encapsulating a die, an electrical communication, and at least a portion of a support structure. Ball and Fukui et al. do not, however, add any relevant disclosure to King et al. with regard to “a flowable adhesive material which does not extend past a perimeter of said at least one semiconductor die”.

Claims 15-21 stand rejected under 35 U.S.C. §103 as being unpatentable over King et al. in view of Lo et al. Applicant respectfully traverses this rejection.

Claim 15 recites a semiconductor assembly that includes “first semiconductor die having a top and a bottom surface” and “a second semiconductor die having a top and bottom surface, said bottom surface having a smaller area than said top surface of said first semiconductor die”. The second die is “secured at its bottom surface to said top surface of said first semiconductor die by a flowable adhesive material which does not extend past a perimeter of said second semiconductor die”. Claims 16-21 depend from claim 15.

As noted above, King et al. fails to teach or suggest “a flowable adhesive material which does not extend past a perimeter of said second semiconductor die”. Lo et al. provides no relevant disclosure with regard to the recited adhesive material.

For at least the reasons provided above, applicant believes that each of the presently pending claims is in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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